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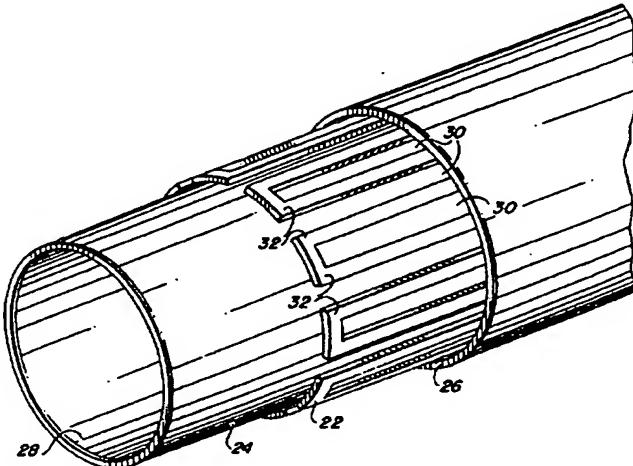
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(54) Title: ENDOLUMINAL ENCAPSULATED STENT AND METHODS OF MANUFACTURE AND ENDOLUMINAL DELIVERY



(57) Abstract

A radially expandable stent-graft and method of making the same, including at least one stent member encapsulated between at least two longitudinally expanded polytetrafluoroethylene (ePTFE) coverings. The at least one stent member (22) has openings through wall surfaces of the stent to permit radial expansion. The at least two longitudinally expanded ePTFE coverings (24, 26) are circumferentially applied over the at least one stent member in their unsintered state, and sintered during application of a circumferential pressure to bond the ePTFE around and through the wall surfaces of the stent (22). The sintered ePTFE forms a substantially continuous, monolithic and integral encapsulation of the at least one stent. Upon radial expansion of the stent graft (10), the stent and the ePTFE node-fibril microstructure radially deform. Radial deformation of the ePTFE encapsulation results in nodal elongation in the axis of radial expansion. After radial expansion of the stent-graft (10), a substantial bonded area remains intact and maintains the encapsulation of the stent *in vivo*.